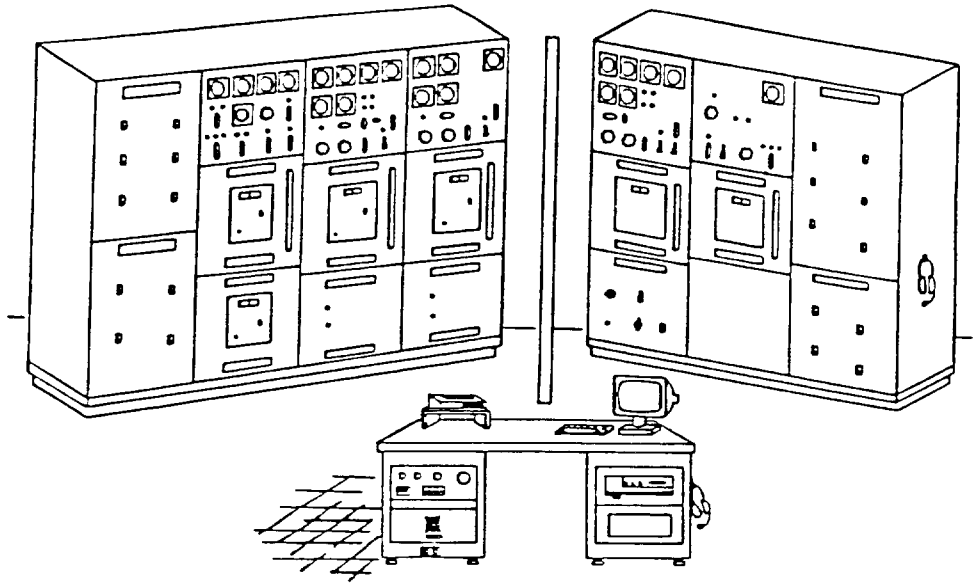
SUMMARY OF
SHIP'S SERVICE ELECTRICAL SWITCHBOARD TRAINER (SSEST)

August 1988

19A10

NAVAL TRAINING SYSTEMS CENTER

ORLANDO, FLORIDA



TRAINING CATEGORY:

ELECTRICAL SYSTEM

ORIGINATING AGENCY:

NAVSEASYSCOM

SECURITY CLASSIFICATION OF DEVICE:

Device 19A10 is unclassified.

PURPOSE OF DEVICE:

To provide training for entry level electrical distribution switchboard operators in the electrician's mates school.

INTENDED USE:

To familiarize students wil operation of the ship's service electrical switchboards and procedures for connection of ship's service turbogenerator, ship's service diesel generator, and shore power to the main and emergency electrical buses.

FUNCTIONAL DESCRIPTION:

Device 19A10 enables two trainee operators to train in operational procedures at their respective switchboards, duplicating the equivalent shipboard situation. A computer simulates the generation and distribution system, as well as all displays and indicators, to realistically respond to all student operator control inputs. Instructor-introduced abnormalities alter these responses in a realistic manner. A sound powered telephone system facilitates training in the proper mode of communication using standard phraseology and protocols. Instructor and student stations are situated to simulate their normally isolated shipboard locations. The turbogenerator switchboard operator/student is partitioned from the diesel generator switchboard operator/student so there can be no direct verbal or visual communication. Similarly, there is no such communication with the instructor whose station is centrally located behind

the students, affording him a view of both students at their stations, (although not vice versa, as the students are facing away from the instructor). During a training scenario, the instructor serves as the Engineering Officer of the Watch, and communication between the instructor and students, and between the students, is limited to sound-powered telephones.

Power requirements consist of a single-phase, 60 Hz, 30A, 120V ac power. All power and signal distribution is controlled at the instructor station to simulate real-time dynamic actions required by training scenarios. This includes monitoring and controlling trainer status, problem control, student instruction, mode selection, and malfunction insertion/deletion.

Major components of the trainer are of modular construction so that installation, assembly and disassembly can be accomplished without special equipment.

PHYSICAL INFORMATION:

Unit	Dimensions L" x W" x H"
Overall Enclosure	312x256
Turbogenerator Switchboard	96x25.5x87.75
Diesel Generator Switchboard	72x25.5x87.75
Instructor Console	72x32x29
Ramp (2)	48x44
Storage Cabinet	30x18x60
Partition	72x2x120

Weight for the trainer does not exceed 250 pounds per square foot.

EQUIPMENT REQUIRED (NOT SUPPLIED):

Refer to Operation and Maintenance Instructions for Device 19A10, NTSC P-5363(U).

POWER REQUIREMENTS:

Voltage	120V ac ±10%
Current	30 Amps
Frequency	60 Hz, Single-Phase

INSTALLATION REQUIREMENTS:

All trainer equipment is designed for passage through a standard 3-foot wide by 80-inch high double door opening (i.e., 72x80 inches)

ENVIRONMENTAL CONDITIONS:

Temperature Range - Extremes:	0°C - 55°C (32°F - 131°F)
Temperature Range - Nominal:	15°C - 26°C (60°F - 80°F)
Humidity - Extremes:	40% - 80% relative
Humidity - Nominal:	40% - 75% relative

PUBLICATIONS FURNISHED:

NTSC P-5363, Operation and Maintenance Instructions Manual (U).
NTSC P-5364, Planned Maintenance System Documentation (U).
NTSC P-5365, Commercial Computer Documentation Set (U).
NTSC P-5362, On-The-Job Training Handbook (U).
NTSC P-5361, Instructor Utilization Handbook (U).

PERSONNEL:

Instructor:	1
Students:	2

CONTRACT IDENTIFICATION:

Manufactured by Simtronics, Inc.
400 Oser Avenue, Hauppauge, NY 11788
Contract No. N61339-86-C-0138

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